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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,418	10/15/1999	KRISHNA A. BHARAT	21708-04479U	8878

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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/418,418	<b>Applicant(s)</b> BHARAT ET AL.	
	<b>Examiner</b> Baoquoc N To	<b>Art Unit</b> 2162	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

47

### **DETAILED ACTION**

1. After carefully review the applicant remark filed on 10/18/2004, the Office withdraws the Finality of the Office Action dated on 06/29/2004. The Office regrets any inconveniences due to the applicants.
2. Claims 1-12 and 14-23 are pending in this application.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1, 20 and 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 20 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al. (Automatic resource compilation by analyzing hyperlink structure and associated Text April 14, 1998) in view of Page (US. Patent No. 6,285,999 B1).

Regarding claims 1 and 20-21, Chakrabarti teaches:

ranking the expert document in accordance with the search query by (hub score, page. 3, line 10)

ranking target document pointed to by the ranked expert documents (authority page, page. 2, line 45 and ranking page. 3, lines 10-11).

return a results list based on the ranked expert documents (page. 3, lines 11-13).

Chakrabarti does not explicitly teach forming a set of expert documents from the set of all hypertext documents crawled without reference to the search query. However, Page also discloses forming a set of expert documents from the set of all hypertext documents crawled without reference to the search query (col. 2, lines 51-54). This passage suggests in order to rank the documents the system has to crawl and score these documents. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include crawling and ranking the crawled documents based on the measure of importance into Chakrabarti in order to organize relevancy of documents in the world wide web to assist the user the search processes.

Regarding on claim 2, Chakrabarti hypertext documents are pages in the World Wide Web (page 2, lines 34-35).

Regarding on claim 3, Chakrabarti hypertext documents are documents in a hypertext database (page 2, lines 34-35).

Regarding on claim 4, Chakrabarti teaches the subject matter except for the hypertext documents are document in hypertext database (page 2, lines 34-35).

Regarding claim 14, Chakrabarti does not teach ranking target documents pointed to by the expert documents includes: determining a plurality of edge scores for each target

document, where an edge score is determined for edges between the expert document and the target document; determining a target score in accordance with the edge scores of the target document; ranking the target document in accordance with the target scores. However, Page teaches ranking target documents pointed to by the expert documents includes: determining a plurality of edge scores for each target document, where an edge score is determined for edges between the expert document and the target document; determining a target score in accordance with the edge scores of the target document; ranking the target document in accordance with the target scores [fig. 2]. Therefore, it would have been obvious to one ordinary skill in the art to include the teaching of page into Chakrabarti and Page because such a ranking the target document would allow Chakrabarti's system to be able to link from the root document to the relevant document to allow the user get to the relevant site.

Regarding on claim 15, Chakrabarti does not explicitly teach determining an edge score only for those link to the target document from a predetermined number of top-ranked expert documents

Page teaches determining an edge score only for those links to the target document from a predetermined number of top-ranked expert documents (col. 4, lines 5-38).

Therefore, it would have been obvious to one ordinary skill in the art to modify Chakrabarti to include the determining the edge score of Page would allow Chakrabarti's system the enhanced capability of allowing the user get to the relevant site.

Regarding on claim 16, Page teaches selecting target documents to be ranked that are linked to by at least two mutually non-affiliated selected expert documents, where the selected target also is not affiliated with the expert documents (A and B, fig. 2).

Regarding to claim 17, Chakrabarti teaches an edge score between an expert document and a target document  $ES(E,T)$  is determined as follows, where ExpertScore reflects the ranking of the expert documents:

a) find # occurrences of each keyword in all keyphrases of expert document E (page 3, lines 21-23).

b) if the # occurrences for any keyword in E is 0:  $ES(E,T)=0$  [page 3, lines 30-32]  
else  $ES(E,T)=ExpertScore(E)*\text{sum of \#occurrences for all keyword}$  (col. 3 lines 32-40).

Regarding to claim 18, Chakrabarti does not explicitly teach if two affiliated experts have edges to the same target, the edge having a lower edge score is discarded and is not used to determine the target score.

However, Page teaches if two affiliated experts have edges to the same target, the edge having a lower edge score is discarded and is not used to determine the target score (col. 5, lines 49-59).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti to include if two affiliated experts have edges to the same target, the edge having a lower edge score is discarded and is not used

to determine the target score as taught to allow the Chakrabarti's system to determining for the pages that are more important.

Regarding on claim 22, Chakrabarti teaches ranking the expert documents in accordance with the search query comprises:

Determining a level score for each of the expert documents (page 3, lines 1-2);

Determining a fullness factor for each key phrase on each of the expert documents (page 4, 28); and

Determining an expert score (a hub score,  $h(p)$ ) (page 3, line 10) for each expert document in accordance with the level score of the expert document (page 3, line 28) and the fullness factors for the key phrases of the expert document (page 4, line 7).

Regarding on claim 23, Chakrabarti teaches determining which of the hypertext document are expert documents occurs before a search query is received (the algorithm first gathers a collection of pages from among which it will distill ones that is consider to be the best topic) (page 3, lines 34-35).

5. Claims 5-10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] in view of Page (US. Patent No. 6,285,999 B1) and further in view of Yu (U.S. Patent No. 6,167,552).

Regarding on claim 19, Chakrabarti and Page do not teach two hypertext documents are affiliated if at least one of the following is true: 1) they share the same rightmost non-generic suffix they have an IP address in common.

Yu teaches that two hypertext documents are affiliated if at least one of the following is true: 1) they share the same rightmost non-generic suffix (col. 7, lines 55-56) and 2) they have an IP address in common (col. 7, lines 50-56).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention is made to include modify Chakrabarti and Page system to include hypertext documents are affiliated as taught by Yu in order to classifying them in the common group for fast easy search.

Regarding claim 5, Chakrabarti and Page do not teach expert reverse index is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents.

Yu discloses the prior art that an expert reverse index is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents (col. 3, lines 31-34).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page to include the inverted index as disclosed by Yu would allow Chakrabarti's system to locate the keyword in the document to determine an expert document.

Regarding claim 6, Chakrabarti page does not explicitly teach an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document.



Yu disclosed in the prior art wherein a keyword of an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document (col. 3, lines 23-24).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page system to include the reverse index as disclosed by Yu to locate the keyword in the document and determine the document is the expert document.

Regarding on claim 8, Chakrabarti and Page do not explicitly teach a key phrase in an HTML title qualify all URLs in the entire document.

Yu teaches a key phrase in an HTML title qualify all URLs in the entire document (col. 12, lines 9-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page system to include the key phrase in an HTML title qualify all URLs in the entire document as taught by Yu to allow the document to be heavily weight as an important document.

Regarding on claim 7, Chakrabarti and Page do not explicitly a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document.

Yu teaches a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document (col. 8, lines 9-19).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page system to include the key

Art Unit: 2162

phrase is the URL as taught by Yu in order to determine the key phrase in the expert document.

Regarding on claim 9, Chakrabarti and Page do not teach a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance

However, Yu teaches a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance (col. 10, lines 29-32).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page system to include the key phrase in an HTML heading qualifies all URLs as taught by Yu in order to determine which of the URLs are the most information links.

Regarding on claim 10, Chakrabarti and Page do not explicitly teach a key phrase in an HTML anchor qualifies the URLs in the anchor.

However, Yu teaches a key phrase in an HTML anchor qualifies the URLs in the anchor (page. 12, lines 6-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify Chakrabarti and Page system to include the phrase in an HTML anchor of Yu to allow Chakrabarti to read and weight as the important one.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] further in view of Page (US. Patent No. 6,285,999 B1) and further in view of Chakrabarti (US. Patent No. 4,418,433).

Regarding on claim 11, Chakrabarti and Page do not explicitly teach at least a predetermined number of outlinks to be an expert document if the document also point to at least the predetermined number of targets on distinct non-affiliated hosts. However, Setting condition such as threshold or predetermine is known in the art for Chakrabarti also teaches, least a predetermined number of outlinks to be an expert document if the document also point to at least the predetermined number of targets on distinct non-affiliated hosts. This teaches the claimed predetermined number of outlinks to be an expert document. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Chakrabarti and Page system to include least a predetermined number of outlinks to be an expert document if the document also point to at least the predetermined number of targets on distinct non-affiliated hosts to allow the Chakarbarti's system the enhanced capability of determining which of the pages in the web would satisfy the condition to be an expert page.

Regarding on claim 12, Chakarbarti teaches expert documents additionally must point to documents that share the same broad classification (page. 10, lines 20-33).

**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

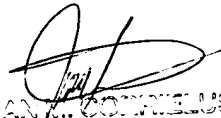
Commissioner of Patents and Trademarks  
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(703) 872-9306 [Official Communication]

Baoquoc N. To

April 7, 2005

  
JEAN M. CONNELLUS  
PRIMARY EXAMINER